No. 4 – March 1952

Farm Mobilization FACT SHEET

Soil and Water Conservation Support Higher Production

We need 6 percent higher production to meet the 1952 production goals. We do not have 6 percent more land this year. That means we must get more from each acre.

Meeting immediate demands and rebuilding reserve stocks will be a problem for some years to come. That calls for using the land to get 1952 production and at the same time improving it to meet increasing future needs.

Conservation farming helps increase yields now....and keeps land in shape for continued high level production. Soil and water conservation practices have had an important part in increasing farm production in recent years and can help raise it still higher.

These practices are most effective when used in the right combinations. Research and practical experience have shown that no one method alone will stop erosion and maintain or increase productivity. The ultimate goal is a conservation farming system using each acre within its capabilities and treating it for protection and improvement. The right practices, used where they fit--so they will eventually be part of a full system of modern conservation farming--are an essential and basic part of a high producing farm.

Without good soil, used and maintained properly, other methods will not be fully effective. But....proper land selection and the right combination of conservation practices....plus other modern methods, such as planting improved varieties, better use of power and machinery, pesticides, weed control, and better livestock feeding....are the ways to higher production.

U. S. Department of Agriculture Office of Information

Our Land Can Produce More

We can get more from our soils if we do these things:

Conserve water so it is available for needed crops, range and pasture production.

Keep productive topsoil in place.

Maintain fertility and tilth at a high level.

Use land for the most needed crop it can best produce and still stay productive. Among factors to be considered are the kind of soil, slope, "the lay of the land," and amount of erosion that has occurred.

EACH INCH OF TOPSOIL LOST FROM AVERAGE LAND MEANS A DECREASE IN PRODUCTION EQUAL TO 5 BUSHELS OF CORN. ONE HARD RAIN CAN WASH AWAY AN INCH OF SOIL.

These Methods Increase Production

1. **Select land best capable** of producing the desired crop. Land that is best adapted to trees or meadow should be in these crops. Some land now in pasture may be good corn land. Some sloping land may produce more livestock feed if in legume and grass pasture. North Carolina land that had been producing 50 bushels of corn per acre produced the equivalent of 87 bushels of corn when it was converted to improved pasture. The same feed nutrients that cost $1.77 as corn cost only 58 cents in the form of good pasture.

2. **Provide plant food.** In many areas a good crop of clover turned under is equal to 8 tons of manure per acre. A ton of manure equals $6 in higher crop yields. On the average, 2 pounds of nitrogen, balanced with needed phosphate and potash, means another bushel of corn. Each 100 pounds of ammonium nitrate may boost corn yields as much as 12 bushels an acre.

3. **Maintain good rotations.** Having land in grass and legumes a fourth or more of the time gives more total feed from the farm each year than a straight grain rotation. Grass and legumes maintain humus and reduce erosion. In experiments in Iowa, corn grown on a 3-year rotation yielded 80 bushels an acre. Land in continuous corn for 10 years yielded about 20 bushels.

4. **Contouring** usually increases corn yields by more than a tenth....wheat about a fifth....other crops a tenth to a third.

5. **Contour strip cropping** increases yields....saves soil.

6. **Grassed waterways** are needed. They prevent gullies.... save machinery repairs....reduce labor.

7. **Terracing** often increases yields....reduces loss of soil.

8. **Winter cover crops** protect soil and add humus.... increase moisture holding ability of soil....make soil work easier....make more plant food available to the following crop.

9. **Legume catch crops** properly fertilized in small grain, plowed under the next spring as green manure, in many places increase corn yields 12 or 15 bushels an acre.

10. **Drainage.** Improving existing systems will greatly increase production on many farms. Sometimes a short ditch or a tile line is all that is needed. (Be sure land is capable of high production and not better suited for other purposes before it is drained.)

11. **Irrigation.** Improvement of existing systems....land leveling....application of the right amount of water at the right time, all boost production and reduce costs.

12. **Improving permanent pastures** by liming, fertilizing, and reseeding with a legume-grass mixture more than doubles forage production. Many farmers now produce 400 to 500 pounds of beef per acre from improved pasture. Many dairy farms are getting comparable results with dairy cattle.

13. **Improving range land.** Good grasslands prevent erosion and keep the land productive. Southern plains ranchers find beef production per acre is increased 2 to 4 times by killing brush and reseeding. Stock water development is important in increasing and utilizing range feed production.

14. **Woodlands planting and improvement.** Many farms have land that is not suitable for cultivated crops or forage production but which can be planted to trees to protect the land and produce a valuable crop of timber. Production from existing woodlands can be increased by good management practices such as thinning, removing diseased trees, fencing out livestock and fire protection.

In a 6-year test on annual range in California, it was shown that ammonium phosphate (16-20-0) increased hay yield per acre from 1273 pounds to 4049 pounds. Application rate was 400 pounds the first year and 200 pounds in each following year. This increase equals 3.4 animal-unit-months of grazing per acre. Fertilized annual range was ready seven weeks earlier than non-fertilized range.

More soil moisture and increased production results from contouring, strip cropping, better rotations, green manure, stubble mulching, level terraces, and other practices. On good soil, coupled with adequate fertilizer and other proved methods, the amount of moisture determines how much the land will produce. During three drouth years (1949-51), corn at the Blacklands Experimental watershed, Waco, Texas, on a conservation-farmed watershed yielded almost half again as much as a watershed farmed the old way. Cotton yields were two-thirds higher on the watershed farmed the conservation way.

In Vernon County, Wisconsin, in 1939, a farmer started a complete farm conservation program covering every acre of his land. He used all the needed soil and water conservation methods. He used other good methods, too. In 10 years, corn yields per acre went from 51 to 90 bushels -- an increase of 39. During the same time the county average increased from 42 to 49 -- an increase of 7 bushels an acre. The increase under conservation farming was five times as large as the county average. Similar examples exist throughout the country.

Wheat yields in northern plains States vary greatly according to the amount of moisture in the soil at seeding time. Plentiful moisture boosts yields an even larger percentage when other conditions are unfavorable than when conditions generally are good. Stubble mulching, level terraces, and other water conserving practices store that extra rain in the soil.

Crop yields per acre have increased about 40 percent since the late 30's. But many farmers have increased production 60 to 100 percent. Other farmers have let production slip down. The ones that have increased production the most are those who are using the right combinations of all the practices that apply to their farm.

On many of these practices, farmers need competent technical help to assure proper design, construction, and application of the right combination. For example: proper outlets must be provided for terraces; grassed waterways usually are necessary with contouring or strip cropping; terraces, ponds, drainage or irrigation systems and other measures requiring engineering skill may do more damage than good if improperly laid out and constructed. Fertilizer applied where it is not needed or on a field not protected from erosion may be a waste of money and scarce materials.

Help Is Available to Farmers

Soil Conservation District Supervisors -- for technical help from the Soil Conservation Service on farm conservation plans.

Production and Marketing Administration county and community committeemen -- for information on financial assistance in carrying out approved soil and water conservation practices under the Agricultural Conservation Program.

County Extension Agent -- for information and advice on farm organization, crop selection and rotations, pasture and range management, adapted varieties, fertilizer application, insect and weed control and other farm management, production and conservation practices.

Soil Conservation Service -- for technical help in planning and establishing complete conservation through Soil Conservation Districts and for technical supervision on permanent practices eligible for PMA financial assistance.

Forest Service -- for help on forest management, planting methods and varieties.

The Time is Now

Farmers can build on what they have done in the past....start the conservation measures they can this year....plan more for next year. Start right. Production is a longtime job.